

## R E M A R K S

Claims 21 - 41 have been cancelled (without prejudice to applicants' right to present claims to their subject matter in a divisional application) and replaced with new claims 42 - 45, all of which are readable on the elected species (the species of FIG. 4A). Since this Amendment does not increase either the total number of claims or the number of independent claims, no additional fee is necessary.

Claims 42 (independent), and 43 - 45 (dependent on 42), all directed to a metal pipe, are now in the application. No claim has been allowed.

Claim 42 incorporates features previously recited in cancelled claims 21, 22 (dependent on 21), and 24 (indirectly dependent on 22) though omitting the recital of "at least one space . . . between and laterally of said male and female portions" set forth in claim 21. Claim 43 specifies that the spring back force is established in the surface on which the caulked portion is provided. Claims 44 and 45 both recite the feature previously set forth in cancelled claim 28 (dependent on 21), and are respectively dependent on claims 42 and 43.

Referring first to the rejection of cancelled claims 21 - 25 and 27 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 4 - 6 of U.S. patent No. 6,601,427 in view of Shepherd, applicants respectfully submit that the asserted combination of the recesses and bifurcated projections of Shepherd with the pipe having four flat surfaces each perpendicular to adjacent surfaces as recited in claims 4 - 6 of the '427 patent would not have been obvious. Shepherd shows the recesses and bifurcated projections only at a longitudinal seam of a cylindrical tube, with no indication or suggestion that any spring back force is or could be provided. Claims 4 - 6 of the

'427 patent recite a portion for generation of spring back force for abutting first and second edge portions of a first flat surface of a pipe of rectangular cross section. There is nothing in either citation to suggest how to adapt its particular feature (recesses and bifurcated projections in a cylindrical tube, generated spring back force exerted so as to cause abutting of first and second edge portions in a flat surface of a rectangular tube) to the configuration of the other. In particular, it is not seen to have been obvious that the spring back force in a rectangular pipe, and the recesses and bifurcated projections shown only in a round tube, would or could cooperate to secure the edge portions of a pipe together in the advantageous manner achieved by the present invention as now defined in claims 42 - 45. Therefore it is believed that the obviousness-type double patenting rejection is not properly applicable to the latter claims, which are limited to a rectangular pipe shape, a caulked portion formed in one of the four flat surfaces, and a defined spring back force established in one of the flat surfaces, all as set forth in claim 42.

The rejection of claims 21, 28 and other claims under 35 U.S.C. §102(b) as anticipated by England et al. is not applicable to claims 42 - 45, because England et al. does not disclose a metal pipe or other workpiece having a rectangular shape.

In addition, England et al. does not teach "male and female portions engaging each other and being locked together in a caulked portion formed by caulking," as claim 42 recites. The male portions 5 of England et al., as shown in Figs. 4 and 5,

"are initially curved along a line x-x centrally therethrough. This draws the side edge 5b nearer to the side edge 5c and greatly facilitates the placing of the projections 5 in their corresponding recesses 9. After

the edges have been brought together and the projections interlocked, as shown in Figures 4 and 5, then the side seam is subjected to a bumping operation . . . [which] consists in the placing of the interlocked edge portions on a bumping anvil or horn, and the striking of the same with a bumping iron which is shaped to conform to the curvature of the body so that when the side seam is bumped, these interlocked portions will lie in the curved plane of the cylindrical body" (England et al., p. 1, col. 2, lines 40-55).

The provision of male portions that are initially curved out of the plane of the surface to facilitate insertion, and flattened by "bumping" after insertion, does not result in a caulked portion formed by caulking, as claim 42 requires.

Moreover, England et al. does not remotely suggest that any surface of the described container has established therein a spring back force acting in a direction for urging the first and second edge sections to approach each other, as claim 42 further recites.

Equally, none of claims 42 - 45 is anticipated by Saurenman. The workpiece of Saurenman is a circular metal ring, not a pipe of rectangular shape. The male and female portions of the joint of this ring are not "locked together in a caulked portion formed by caulking"; indeed, Saurenman teaches away from caulking:

"a direct coplanar shove of the tongue into the recess would have to overcome considerable dimensional interferences and cause considerable distortion and loss of locking engagement" (col. 2, lines 51-54).

Instead, Saurenman uses the procedure illustrated in Figs. 5-10 of the patent. Saurenman, as well, is not seen to disclose or suggest the establishment of any spring back force in the ring for urging the edges of the joint together.

Shepherd, again, does not anticipate any of claims 42 - 45, because Shepherd does not disclose either a pipe of rectangular shape or the establishment of any spring back force for urging edges of a joint toward each other.

With reference to the several grounds of rejection of the previous claims under 35 U.S.C. §103(a), applicants note that claims 42-45 are limited to the combination of a caulked portion formed by caulking and a surface having a defined spring back force established therein. England et al. and Saurenman, whether considered separately or together, do not disclose either a caulked portion or a surface having an established spring back force, much less any combination of those features. Consequently, neither reference could make obvious that combination as set forth in claim 42, on which claims 43 - 45 depend.

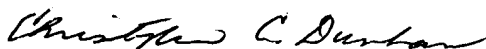
Crowley et al., cited only as disclosing that it is well known to form metal pipes with longitudinal seams that can be similar to a circular shape or a square shape, in fact shows only spirally or helically wound pipes (having helical rather than longitudinal seams) with cross-sections "of alternate curves and straight lines" rather than circular cross-sections (P. 1, col. 1, lines 1-8). Be that as it may, Crowley contains no disclosure of any "caulked portion formed by caulking" or any side having an established spring back force; hence Crowley adds nothing to England et al. and Saurenman with respect to the combination of those features, recited in present claim 42.

Vance is cited as making obvious the establishment of a spring back force in a side of a tube. Even assuming *arguendo* (which applicants do not concede) that Vance does so, nevertheless

Vance does not remotely suggest the provision of a caulked portion formed by caulking, much less the defined combination therewith of the specific spring back force feature recited in claim 42, which is a property of the claimed structure, not merely a method step. Since none of England et al., Saurenman and Crowley disclose the recited caulked portion, it is further submitted that these recitals of claim 42 distinguish claims 42 - 45 patentably over England et al., Saurenman, Crowley and Vance and any proper combination thereof.


For the foregoing reasons, it is believed that this application is now in condition for allowance. Favorable action thereon is accordingly courteously requested.

Respectfully,



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I hereby certify that this paper is being deposited this date with the U.S. Postal Service as first class mail addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

  
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